tribes, both in this country and Europe, has a recognizable similarity, while the same is true of tribes of warmer countries. There is little similarity between the pottery of the Nebraska aborigine and the pottery of the Mexican aborigine. There is much similarity between the pottery of the Nebraska aborigine and the aborigines of England, Ireland and Scandinavia. The pottery which we know to be the oldest in Nebraska shows a greater degree of art than the specimens we know were made just prior to contact with the whites.

Preliminary Work in Experimental Evolution: Frederic E. Clements.

The work done at the Alpine Laboratory at Minnehaha near Pikes Peak during the past six years concerns itself chiefly with measuring the physical factors of the many habitats, and the study of plant and vegetation differences arising from them. In 1905 a beginning was made in the matter of tracing the evolution of new forms. The problem was attacked simultaneously from the three standpoints of variation, mutation and adaptation. Careful observations were made upon variable and mutable species, and a number of plastic and stable species were moved from their original homes to new and widely different habitats. The seeds of a number of species which had already produced new forms by adaptation to two or more habitats were planted in the greenhouse in order to determine to what degree the new characters had become fixed.

Species of Filaria found in Human Blood: H. B. Ward. (With lantern slides.)

Circulating in the human blood at times are found minute round worms which are denominated collectively microfilariæ. They are embryonic forms, and though exceedingly uniform in general appearance, represent at least ten or twelve species of filariæ. Their structure is simple and only imperfectly known in detail, while the general size constitutes the common means of distinction. Certain of these forms manifest a periodicity in their appearance in the peripheral circulation which causes them to be classed as nocturnal or diurnal. In some forms the greatly attenuated vitelline membrane persists as a delicate sheath surrounding the circulating embryo and offers another mark of distinction. It has been shown that some species pass the next stage of their life history in a mosquito, from which they are enabled to pass to a new host when the insect is biting. They reach maturity in the subdermal connective tissue, or in lymph glands, whence the myriads of embryos produced by the female enter the blood to begin anew the life cycle. The life history of other forms is entirely conjectural. A synopsis of known forms was presented.

F. D. Heald,
Secretary.

Lincoln, Nebraska.

SCIENTIFIC BOOKS.

A Bibliography of Physical Training. By J. H. McCurdy, M.D. New York, G. E. Stechert & Co. Published by the Physical Directors' Society of the Y. M. C. A. of North America. Springfield, Mass. 1905. 8vo, pp. 369. Price $3.00.

One of the greatest obstacles that workers and students in the field of physical education have encountered has been the lack of a bibliography on the subject. The literature of physical training embraces such a wide range of topics that several individuals and committees who attempted to compile it, very soon gave up the task. That Dr. McCurdy had the patience and perseverance to keep on with the work for nearly fourteen years is evidence of his ability and his devotion to the cause of physical training.

The author had exceptional opportunities for doing the work thoroughly, for the library of the International Training School, with which Dr. McCurdy is connected, contains

one of the largest collections of physical-training literature, and the files of the Bibliographica Medica, Concilium Bibliographicum, American Index Medicus, Surgeon General's Index of the United States Government, Poole's Periodical Index, etc. Also complete files of the technical periodicals on physical training which are not as a rule classified in Poole's Index.

This volume contains a classification of physical-training literature (pp. 9–16) which is an amplification of No. 613.71 of Dewey's 'Decimal Classification.' This classification has already passed through two editions; it is the result of many years of practical use and is invaluable for library classification of physical training literature.

The index (pp. 17–22) serves as a guide to the foregoing classification and to the bibliography, which fills the last 346 pages of the book.

The bibliography includes some 4,000 titles arranged under eight main heads and numerous subheads as follows:

I. *General Works.* (1) Philosophy, (2) compends, (3) cyclopedias, (4) periodicals, (5) societies and conferences, (6) normal education, (7) systems.

II. *The Subject of Training—Man.* (1) Physical, (2) mental, (3) spiritual, (4) social.

III. *The Exercises—Gymnastic.* (1) Medical, (2) calisthenics, (3) defensive, (4) heavy apparatus, (5) indoor games, (6) developing apparatus.

IV. *The Exercises—Athletic.* (1) Track athletics, (2) field athletics, (3) indoor athletics, (4) outdoor games, (5) outdoor recreations, (6) sporting.

V. *The Exercises—Aquatic.* (1) Boat and canoe building, (2) sailing or yachting, (3) rowing and paddling, (4) fishing, (5) ice sports, (6) snow sports.

VI. *The Organization.* (1) Scope, etc., (2) local organization, (3) salaried officials, (4) methods.

VII. *The Place.* (1) Gymnasium, (2) athletic field, (3) public playgrounds, (4) aquatic plant.

VIII. *History of Physical Training.* (1) Biography, (2) schools, (3) Young Men's Christian Associations, (4) other societies and clubs.

The bibliography includes practically all the literature printed in English up to January 1, 1905, as well as the titles of the most significant books, articles and pamphlets in German, French and other tongues.

The titles of books and articles which are considered most important by the author and his co-workers are indicated by an asterisk.

This book can hardly fail to receive immediate recognition from all workers in the field of physical training, and the more they use it, the more they will appreciate it.

GEO. L. MEYLAN.

The Polariscope in the Chemical Laboratory, an Introduction to Polarimetry and Related Methods. By GEORGE WILLIAM ROLFE, A.M. New York, The Macmillan Co. 1905.

This book differs from most books on polariscopic analysis by laying stress on the use of the polariscope in other industries besides the sugar industry. The author's experience as a technical chemist and his position as a teacher of polarimetric methods at the Massachusetts Institute of Technology qualify him to write understandingly on the subject he has chosen.

The contents of the book embrace a brief discussion of the fundamental principles underlying polariscopic analysis, a description of polariscopic apparatus and laboratory manipulation, a condensed account of sugar-house and refinery methods as well as of the starch industry, and an outline of the application of polarimetry to scientific research and to chemical analysis of sundry substances.

It appears to the reviewer that it would have been of decided advantage to the students of this book if the author had more strongly emphasized the methods of the International Commission, which methods are at the present time the standard methods of Europe and which no doubt will soon find general application in this country.

Concerning the alleged influence of temperature on the specific rotation of sucrose it is stated (p. 44): "Although these values for temperature correction seem well established